UNIVERSITY OF THE FRASER VALLEY

UPAC FORM #2 (Page 1)

COURSE IMPLEMENTATION DATE: November 2006
COURSE REVISED IMPLEMENTATION DATE: May 2009
COURSE TO BE REVIEWED: March 2011
(Four years after UPAC final approval date) (MONTH YEAR)

OFFICIAL COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.
Shaded headings are subject to change at the discretion of the department and the material will vary - see course syllabus available from instructor

FACULTY/DEPARTMENT: **Upgrading and University Preparation**

BIO 083		3
COURSE NAME/NUMBER	FORMER COURSE NUMBER Pre-College Biology 1	UCFV CREDITS

COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

This is a pre-college level course designed for students who intend to enter university studies, health sciences, or technology courses. Topics include ecology as it relates to current environmental problems; cell structure, function and reproduction; and overview of simple organisms, such as algae, and their relationship to advanced life forms of plants and animals. An important component of the course is a series of laboratory sessions which reinforces classroom topics.

PREREQUISITES: None. ENGL 071 or English 10 recommended.
COREQUISITES:

SYNONYMOUS COURSE(S)
(a) Replaces: _____ *(Course #)*
(b) Cannot take: _____ *(Course #)* for further credit.

SERVICE COURSE TO:
Nursing; Dental Assisting; KPE; Agriculture; BSc
(Department/Program)
(Department/Program)

TOTAL HOURS PER TERM: 90

STRUCTURE OF HOURS:

Lectures:	**50**	Hrs
Seminar:		Hrs
Laboratory:	30	Hrs
Field Experience:	10	Hrs
Student Directed Learning:		Hrs
Other (Specify):		Hrs

TRAINING DAY-BASED INSTRUCTION
LENGTH OF COURSE:
HOURS PER DAY:

MAXIMUM ENROLLMENT: 24
EXPECTED FREQUENCY OF COURSE OFFERINGS: at least two times a year
WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only) ☐ Yes ☒ No
WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department) ☐ Yes ☒ No
TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE: ☐ Yes ☒ No

AUTHORIZATION SIGNATURES:

Course Designer(s): CCP Science Working Group
Chairperson: Donna Costello
Department Head: Sue Brigden
Dean: Karen Evans
UPAC Approval in Principle Date:
UPAC Final Approval Date: Mar. 2, 2007

LEARNING OBJECTIVES / GOALS / OUTCOMES / LEARNING OUTCOMES:

Upon successful completion of the course, it is expected that students will be able to:

1. Apply the Scientific Method.
2. Demonstrate an understanding of basic chemistry.
3. Describe major function and structures of cells and related chemistry.
4. Identify major taxonomic groups.
5. Demonstrate an understanding of classification.
6. Identify structure of viruses, domain bacteria, protists, fungi, major plant phyla, major invertebrate phyla, and vertebrate classes.
7. Identify distinguishing characteristics of viruses, domain bacteria, protists, fungi, major plant phyla, major invertebrate phyla, and vertebrate classes.
8. Describe life processes of viruses, domain bacteria, protists, fungi, major plant phyla, major invertebrate phyla, and vertebrate phyla.
9. Relate adaptation to their role in the ecosystem of viruses, monera, protists, fungi, major plant phyla, major invertebrate phyla, and vertebrate classes.
10. Describe energy transfer for food chains, food webs, energy pyramids, and biogeochemical materials cycles.
11. Use a dichotomous key to identify organisms.
12. Define communities and population and explain their distribution, dynamic, and changes over time.
13. Define biosphere and characterize aquatic and terrestrial biomes using British Columbia examples.
14. Identify ecological problems and evaluate possible solutions.
15. Cite evidence for evolution.
16. Demonstrate a basic understanding of how the theory of evolution related to classification [for example, homology as compared to analogy].
17. Discuss the origin of life.
18. Demonstrate microscope skills.
19. Collect and record data in an effective manner.
20. Conduct lab procedures safely and precisely.
21. Interpret data collected.

METHODS:

Presentation will be by standard lecture/laboratory method, supplemented when appropriate with field trips, films, and other resource materials or persons.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Credit can be awarded for this course through PLAR (Please check:) ☒ Yes ☐ No

METHODS OF OBTAINING PLAR:

Comprehensive examination and/or proven record or course taken with lab experience in the last two years.

TEXTBOOKS, REFERENCES, MATERIALS:

[Textbook selection varies by instructor. An example of texts for this course might be:]

Miller, K., & Levine, J. Biology (2006 Edition). Pearson Prentice Hall

Reference texts:
1. Animals Without Backbones, Buchsbaum (2nd edition)
2. An Atlas of Plant Structure Volume 1, Brian Bracegirdle and Particia H. Miles
3. Introductory Plant Bioloby, K. R. Stern (4th edition)

SUPPLIES / MATERIALS:

STUDENT EVALUATION:

[An example of student evaluation for this course might be:]

Chapter quizzes	25%
Laboratories	25%
Mid-term exam	25%
Final exam	25%

COURSE CONTENT:

[Course content varies by instructor. An example of course content might be:]

Lectures:
- Introduction, The Study of Life, Methods and Tools of Biology
- Life Chemistry (Chemical Basis of Life)
- Photosynthesis and Cellular Respiration
- Cellular Reproduction
- The Structure and Function of Cells
- Classification, Viruses
- Monera
- Protists
- Fungi
- The Plant Kingdom
- Mosses & Ferns
- Plant Structures
- Ecology
- Sponges, Cnidarians, and Unsegmented Worms
- Annelids and Mollusks
- Arthropods
- Amphibians
- Reptiles, Birds
- Mammals

Labs:
- Microscope 1 and 2; Cell; Monera; Protist; Fungi; Plant; Invertebrates; Mammalian; Ecology